

REMARKS

In the present Amendment, claims 1 and 5 are currently amended, claim 7 is new, and claim 2 is cancelled. Thus, upon entry of this Amendment, claims 1 and 3-7 will be pending, of which claim 1 is independent.

Claim Rejections – 35 U.S.C. § 102(b)

The Office Action rejects claim 1 as allegedly anticipated by HENLEY (U.S. Patent No. 6,146,979).

Applicants respectfully submit that a rejection under 102(b) requires that each and every element of the claim be disclosed in the cited document.

In this Amendment, claim 1 is presently amended to incorporate the recitation of previous claim 2 (currently cancelled). Applicants submit that this recitation does not appear in HENLEY and that the arguments for anticipation under 102(b) are moot.

The Office Action rejects claims 1 and 3 as allegedly anticipated by CHEUNG (U.S. Patent No. 6,344,404).

As set forth above, claim 1 is presently amended. Thus, Applicants respectfully submit that CHEUNG fails to anticipate claims 1 and 3 (claim 3 being dependent from claim 1) and that the arguments for anticipation under 102(b) under this document are moot.

The Office Action rejects claims 1 and 2 as allegedly anticipated by LINN (U.S. Patent No. 6,255,195). Claim 2 is cancelled in this amendment and its subject matter incorporated into claim 1.

Applicants respectfully submit that LINN is insufficient basis for a rejection under 35 U.S.C. § 102(b).

The disclosure of LINN is directed to the use of implantation (23) of semiconductor ions, and does not disclose ion-implantation of a light element as recited in claim 1 of the present application. (See LINN, Col. 2, lines 54-57; Col. 4, lines 5-9). LINN discloses matching the semiconductor ion with the semiconductor material of which the wafer is comprised, wherein the implantation of a semiconductor ion forms a gettering zone. (See LINN, Col. 4, lines 46-54)(emphasis added).

Thus, Applicants submit that the rejection is not sufficient under 102(b) and that the arguments with respect to anticipation of claim 1 over LINN are moot.

Applicants further submit that LINN fails to disclose “heat treating said bonded wafer to form bubbles of said light element in said ion-implanted area and thereby induce a cleavage and separation of a part of said bonded wafer defined in said ion-implanted side for forming an active layer.”

For at least the forgoing reasons, claims 1 and 3 are believed to be patentable and Applicants respectfully request that the rejection of these claims be withdrawn.

Claim Rejections – 35 U.S.C. § 103(a)

The Office Action rejects claim 4 as allegedly unpatentable over CHEUNG.

Claim 4 depends from and incorporates all the limitations of claims 1 and 3. For at least the same reasons as provided above, Applicants respectfully submit that claim 4 is similarly patentable and request allowance of the claim.

The Office Action rejects claims 2, 5, and 6 as allegedly unpatentable over CHEUNG in view of LINN. Claim 2 is cancelled in this amendment. However the Office’s arguments regarding a rejection of claim 2 will be discussed herein with respect to claim 1.

Claims 5 and 6 depend from and incorporate all the limitations of claim 1. For at least the same reasons as provided above, Applicants respectfully submit that claims 5 and 6 are similarly patentable and request allowance of these claims.

With respect to the rejection of claim 2, which is substantively incorporated into claim 1, Applicants submit that the Office Action has not set forth any valid reasoning for combining LINN with CHEUNG. MPEP § 2141 directs Examiners that when making a § 103 rejection to provide a “clear articulation of the reason(s) why the claimed invention would have been obvious” and that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” (*KSR International Co. v. Teleflex Inc. (KSR)*, 82 USPQ2d at 1396.)

The statement that it would be “obvious to one of ordinary skill in the art the time the invention was made to have utilized the specified thicknesses as disclosed in LINN with the method of CHEUNG to utilize process conditions which satisfy applicants claimed range since LINN et al. discloses that the thickness of the oxide insulator is 1 – 50 nm and the thickness of the formed semiconductor layer is 0.1 – 2 μm ” (emphasis added) is not a proper rationale for combining the document disclosures.

It appears that this reasoning is vague and circular. Accordingly, Applicants respectfully request if these grounds of rejection are maintained that a clearer statement of the grounds for the rejection be provided and that the next action be non-final, so Applicants are afforded a full and fair opportunity to respond.

Applicants herein provide further remarks based on the issues it is believed that the Office Action attempts to point out. Further, Applicants note that the combination of the

references is generally not applicable. LINN involves bonding between two wafers wherein a first wafer has an oxide layer, but a second (device) wafer has no oxide layer at a time of bonding (Col. 5, lines 5-18). Taking the Office Action's assertion that an oxide layer (21) of LINN should be incorporated into CHEUNG to fulfill the processing conditions of the present application, it is noted that any existing oxide thicknesses as disclosed by LINN are removed as of the relevant processing step (Col. 5, lines 5-18). Thus, even if an oxide layer in CHEUNG is used, it would make no sense to incorporate a wafer wherein an oxide layer has been purposefully removed as the effective thickness is zero.

Further, the ion implantation as performed in LINN is directed towards implantation of semiconductor ions, specifically, the disclosure suggests silicon or germanium (Col. 5, lines 31-37). The Office Action fails to explain how these wafers are relatable. Applicants submit that one of ordinary skill in the art would firstly, not considered a wafer wherein large semiconductor ions impinging surface would cause substantially more damage,

Thus, it is respectfully submitted that the combination of the CHEUNG and LINN documents is not proper.

CONCLUSION

For at least the reasons set forth above, Applicants submit that the claims pending in the present application are not rendered obvious or anticipated. Applicants respectfully request that the rejections of claims 1 and 3-7 be withdrawn and the claims allowed to issuance.

If there should be any questions, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully Submitted,
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